

What is claimed is:

Sub A 5

1. A control unit to facilitate remote programming for local control of systems and appliances, comprising:
 - a microcontroller for managing functions of the control unit;
 - an input-output (I/O) section coupled to the microcontroller for interfacing voltage levels between the systems and appliances and the microcontroller;
 - 10 a system memory for storing executable code and data;
 - a wiring interface for connecting input and output points from the control unit to the system or appliance; and
 - an RF section communicating with the microcontroller and memory for receiving programs and data;
- 15 characterized in that, with connections made between the wiring interface and the controlled system or appliance, the microcontroller provides outputs to operate functions on the system or appliance in response execution of control code and stored data by the microcontroller, the control code and data received via the R/F section.
- 20 2. The control unit of claim 1 wherein the microcontroller produces control outputs partly in response to input from sensors on the controlled system or appliance.
3. The control unit of claim 2 further comprising additional sensors in the control unit, wherein the microcontroller produces control outputs partly in response to input from the additional sensors.

Sub B1 5

*Sub
a27*

4. The control unit of claim 1 wherein the microcontroller monitors sensors, whether internal or on the controlled system or appliance, and transmits status data via the RF section.

5. A method for controlling a system or appliance, comprising steps of:

(a) connecting a control unit to the appliance by a wiring interface, the control unit comprising a microcontroller for managing functions of the control unit, an input-output (I/O) section coupled to the microcontroller for interfacing voltage levels between the systems and appliances and the microcontroller, a system memory for storing executable code and data, a wiring interface for connecting input and output points from the control unit to the system or appliance, and an RF section communicating with the microcontroller and memory for receiving programs and data;

10 (b) receiving control code and data from a remote location by RF signals via the RF section; and

15 (c) operating functions on the system or appliance in response to execution of the received control code and data by the microcontroller.

20 6. The method of claim 5 wherein, in step (c) the microcontroller produces control outputs partly in response to input from sensors on the controlled system or appliance.

7. The method of claim 6 further comprising additional sensors in the control unit, and wherein, in step (c) the microcontroller produces control outputs partly in response to input from the additional sensors.

*Sub
25 B1*

8. The method of claim 5 further comprising a step (d) for monitoring sensors, whether internal or on the controlled system or appliance, and transmitting status data via the RF section.

5

9. A base station for managing one or more control units, comprising:
a microcontroller for managing functions of the base station;
system memory coupled to the microcontroller for storing executable code and data needed in base station functions;

10 a communication port for communicating with the Internet; and
an RF section;

characterized in that the base station receives control code and data via communication port, and transmits the control code and data via the RF section to the one or more control units for use in controlling systems and appliances.

15 10. The base station of claim 9 wherein the communication port is one of a standard serial or parallel communication port compatible with a personal computer (PC) and wherein the PC handles communication with the Internet for receiving control code and data, and transfers the control code and data to the base station.

20

11. The base station of claim 9 wherein the base station records and identifies all remote control units in its range, and selectively transmits data and control code to the control units via the RF section, the incoming control code and data being identified for individual ones of the control units.

25

Sub B1
~~12. The base station of claim 9 enabled to identify and communicate with up to 256 control units selectively.~~

Sub A4 5
~~13. The base station of claim 9 wherein the base station receives status data via the RF section from control units, and transmits the status data identified according to the control unit providing the status data, to the Internet.~~

~~14. A method for managing control functions for a plurality of systems and appliances in a home or business area, the systems and appliances connected to control units having each an RF section for receiving control code and data and transmitting data, the method comprising steps of:~~

~~(a) identifying each control unit uniquely electronically;~~
~~(b) providing a single base station in the home or business area, the base station having a port for communication with the Internet and an RF section for communicating with the plurality of control units; and~~
~~(c) downloading control code and data from an Internet site by the base station identified for individual ones of the control units, and transmitting the downloaded control code and data selectively to the individual ones of the control units.~~

~~20~~

Sub B1
~~15. The method of claim 14 wherein, in step (c), the base station also receives status data from the control units identified as to the control unit sending the data, and forwards the status data to the Internet site.~~

Sub A5 25
~~16. The method of claim 14 wherein the communication port is one of a standard serial or parallel communication port compatible with a personal computer (PC) and wherein a connected PC handles communication with the~~

Internet for receiving control code and data, and transfers the control code and data to the base station.

17. A control system for systems and appliances in a home or business area, comprising:

5 a plurality of control units wired to sensors and actuators of individual ones of the systems and appliances, the control units having each a microcontroller, a system memory and an I/O section, and an RF section for external communication;

10 a base station in the home or business area having a communication port to the Internet and an RF section for communicating with the plurality of control units; and

15 an Internet site executing software enabling a subscriber associated with the home or business area to interact with the base station;

characterized in that the Internet site software provides an interface for the subscriber to review status of systems and appliances having connected control units in the associated home or business area, and to enter control code and data addressed for individual ones of the control units in the home or business area.

20 18. The control system of claim 17 wherein the base station comprises an Internet browser and an Internet-capable port for Internet access.

Sub
B1 25 19. The control system of claim 17 wherein the base station has a standard serial or parallel port for connection to a personal computer, and the personal computer accomplishes necessary Internet browsing functions.

*Sub
b1*
20. The control system of claim 17 wherein each control unit is configured to the base station by a specific address.

*Sub
a6
5*
21. The control system of claim 17 wherein the subscriber has a specific web page on the Internet site, wherein all configured, installed and active control units in the home or business area with which the subscriber is associated are indicated.

10 22. The control system of claim 21 wherein the base station, through the respective RF sections, configures any new control unit brought into the home or business area by adding the control unit to a list managed by the base station, including assigning the control unit an address, and communicating to the associated web site details regarding the new control unit in a manner that the subscriber may monitor and control the system or 15 appliance associated with the new control unit through the web site.

*Sub
b1
20*
23. The control system of claim 21 wherein the base station, through compatible magnetic induction equipment installed in both the base station and any new control unit, configures any new control unit brought within a maximum induction range by adding the control unit to a list managed by the base station, including assigning the control unit an address, and communicating to the associated web site details regarding the new control unit in a manner that the subscriber may monitor and control the system or appliance associated with the new control unit through the web site.

*Sub
u
25*
24. A method for managing control functions for a plurality of systems and appliances in a home or business area, comprising steps of:

(a) connecting a control unit to each system or appliance, each control unit enabled to receive input from sensors and to actuate functions of the system or appliance to which it is connected, with each control unit having an RF section for receiving control code and data and transmitting data;

5

(b) identifying each control unit uniquely electronically;

(c) providing a single base station in the home or business area, the base station having a port for communication with the Internet and an RF section for communicating with the plurality of control units;

10

(d) downloading control code and data from an Internet site by the base station identified for individual ones of the control units, and transmitting the downloaded control code and data selectively to the individual ones of the control units; and

15

(e) providing a web site where a subscriber associated with the home or business area may access a web page having an interface for displaying status of each active control unit in the home or business area, and allowing the subscriber to enter functions and data for controlling the active control units in the home or business area.

20

25. An Internet subscription service having a system comprising a plurality of web pages specific to individual subscribers, and accessible interactively by the subscribers through any Internet appliance,

25

characterized in that the system communicates for each web page and subscriber with a base station at a home or business site associated with the subscriber, wherein individual base stations stream status information regarding systems and appliances at the home or business site to the web site for posting on the associated web pages, and commands and data entered by

Q1

a subscriber in a web page for a specific site are streamed to the base station at the home or business site.